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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,154	03/02/2004	Amit A. Merchant	Intel 2207/793203	4865

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KENYON & KENYON (SAN JOSE)
333 WEST SAN CARLOS ST.
SUITE 600
SAN JOSE, CA 95110

EXAMINER	
DONAGHUE, LARRY D	

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/792,154	MERCHANT ET AL.	
	Examiner	Art Unit	
	Larry D Donaghue	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *02 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-23 and 35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-23 and 35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/02/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 17-23 and 35 are presented for examination.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 17-23 and 35 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 6792,446. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claims 1-11 of patent 6,792,446 contain(s) every element of claim(s) 17-23 and 35 of the instant application and as such anticipate(s) claim(s)17-23 and 35 of the instant application. "A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). " ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

2.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth l Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the

time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 1038 and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 17-23 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gulati et al. (Performance Study of a Concurrent Multithreaded Processor) in view of Loikkanen et al. (A Fine-Grain Multithreading Superscalar Architecture)further in view of Steely, Jr. et al.(5,197,132).

6. All references were cited by applicant on paper filed 03/02/2004.

7. Gulati et al. taught the invention (claims 17 and 18) substantially as claimed allocating execution resources (page 293, col. 1, lines 42-46; page 296, col. 1, lines 15-29) determining that a first thread is stalled (page 297, col. 1) and continuing to allocate resources to the other threads (page 293, col. 1, lines 42-46; page 296, col. 1, lines 15-29).

As to claim 19, Gulati et al. taught the execution resources are allocated on a rotating priority basis (page 296, col. 1, line 1 -page 297 col. 1, line 46).

8. As to claim 21, Gulati et al. taught detecting a long latency instruction (page 297, col. 1).

9. Gulati et al. did not expressly teach temporarily storing an instruction of the first thread in a queue. Loikkanen et al. the temporarily storing one or more instructions of a stalled thread in a queue (page 166, col. 1, section titled Remote Loads and Stores) and inhibiting further allocation of resources to the stalled thread (page 293, col. 1, lines 42-46; page 296, col. 1, lines 15-29).

10. As to claim 20, Loikkanen et al. taught detecting the thread is no longer stalled, unloading the instruction from the queue and re-allocating the at least some execution resources to the thread (page 165, col. 1, lines 1-15 and col. 2, lines 6-12 and page 166, col. 1, section titled Remote Loads and Stores).

11. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine these references as the thread suspending instruction buffers are the key behind eliminating stalls as disclosed by Loikkanen et al. Neither of the previously cited reference expressly disclose the use of a replay queue Steely, Jr. et al. taught the use of a replay queue for temporally storing instruction which are executed incorrectly (col. 3, lines 1-3 and col. 16, lines 12-19). It would have been obvious to one of ordinary skill in the data processing art at the time of the invention to combine the teach of Steely, Jr. et al. with the previous reference to gain rapid access to the instruction sequence in which an error has occurred.

12. As to claim 22, Steely et al. taught re-executing the instruction from the first thread (col. 3, lines 1-3 and col. 16, lines 12-19).

13. As to claim 23, Gulati et al. did not expressly teach temporarily storing an instruction of the second thread in a queue. Loikkanen et al. the temporarily storing one or more instructions of a stalled thread in a queue (page 166, col. 1, section titled Remote Loads and Stores) and inhibiting further allocation of resources to the stalled thread (page 293, col. 1, lines 42-46; page 296, col. 1, lines 15-29).

14. Claim 35, fails to teach or define above and beyond claims 17 and 23 and is rejected for the reasons set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larry D Donaghue whose telephone number is 571-272-3962. The examiner can normally be reached on M-F 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).